

Appl. No. 10/294,024
Amdt. Dated 01/10/2008
Reply to Office action of 09/10/2007

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims

1. (currently amended) An equalization method for a single carrier wireless transmitter apparatus, comprising:

determining a channel impulse response;

calculating feed forward coefficients and feedback coefficients for at least one time domain filter in a decision feedback equalizer based on the channel impulse response; and

selecting a subset of calculated coefficients for the time domain filter in the DFE, the feed forward coefficients and a subset of the feedback coefficients wherein a number of coefficients in each subset is less than a total number of the determined coefficients;

wherein each coefficient in the subsets of the coefficients is selected based on an amplitude of the coefficient satisfying at least one of:

the amplitude is one of a largest coefficient amplitudes of the feed forward filter coefficients or the feedback filter coefficients; and

the amplitude is bigger than $K \cdot \sigma_{\text{sub.F}}$ or $K \cdot \sigma_{\text{sub.B}}$, where $\sigma_{\text{sub.F}}$ or $\sigma_{\text{sub.B}}$ are standard deviations of a subset of coefficients whose amplitudes are not one of the largest coefficient amplitudes of the feed forward filter coefficients or the feedback filter coefficients, wherein K is a threshold parameter that provides protection against coefficient computation noise.

2. (currently amended) Apparatus for equalizing single carrier single burst signals, comprising:

circuitry for estimating a channel impulse response;

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circuitry for determining feed forward filter coefficients and feedback filter coefficients for a decision feedback equalizer having sufficient length to cover a maximum anticipated channel impulse response; and

circuitry for selecting a subset of the feed forward coefficients and a subset of the feedback coefficients, wherein [[with]] a number of coefficients in each subset is less than [[the]] a total number of [[calculated]] the determined coefficients;

wherein each coefficient in the subsets of the coefficients is selected based on an amplitude of the coefficient satisfying at least one of:

the amplitude is one of a largest coefficient amplitudes of the feed forward filter coefficients or the feedback filter coefficients; and

the amplitude is bigger than $K \cdot \sigma_{\text{sub.F}}$ or $K \cdot \sigma_{\text{sub.B}}$, where $\sigma_{\text{sub.F}}$ or $\sigma_{\text{sub.B}}$ are standard deviations of a subset of coefficients whose amplitudes are not one of the largest coefficient amplitudes of the feed forward filter coefficients or the feedback filter coefficients, wherein K is a threshold parameter that provides protection against coefficient computation noise.